



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

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To: ALL NPDES PERMITTEES WHO MUST PERFORM *E. COLI* TESTING
From: Matthew C. Rueff, Assistant Commissioner
Subj: Policy for reporting TNTC data for *E. coli* testing
Date: January 3, 2001

NPDES permits require that the monthly average of *E. coli* be less than 125 colonies per 100 milliliters of filtered sample. *Standard Methods for the Examination of Water and Wastewater* (18th Edition – page 9-57) indicates that the allowable maximum number of colonies per plate (filter) is 200. The optimum count is in the range of 20 to 80 colonies, with an ideal sample yielding about 50 colonies.

Even though filtration of 100 milliliters (or lesser volumes) normally produces an acceptable colony count for disinfected effluent, occasionally the count for these normally acceptable dilutions may exceed 200 colonies per plate.

To prevent such an occurrence we are strongly recommending that laboratory personnel routinely run a 1.0 milliliter dilution along with the normally acceptable dilutions for each test.

If all dilutions for that test, including the 1.0 mL. dilution, result in plates (filters) that are deemed “too numerous to count”(TNTC), the number reported for the 1.0 mL. test should be handled as follows:

Volume Filtered	Dilution Ratio	Maximum Count/100 mL.	TNTC number /100 mL.
1.0 mL.	100	20,000	63,200

The 63,200 count should be reported on the MRO as the *E. coli* result for that day and included in the monthly average calculation.

Justification: If the 1.0 mL. plate is deemed TNTC, then the actual count is likely to be somewhere between 20,000 (maximum count for a 1.0 mL. dilution) and 200,000 (maximum count for a 0.1 mL. dilution). **The TNTC number of 63,200 is the geometric mean of those two numbers.**

Obviously, the 1.0 mL. plate should not have growth that is deemed TNTC and this extreme number of colonies would not come into play in any but the rarest of situations.

Any questions regarding this policy should be directed to Barbara McDowell at 317-233-6464.